

# Testing grain for fungal toxins–Summary 2014

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Australia is considered to have an environment that is generally uncondusive for the production of mycotoxins, as the climate is hot and dry. Any elevated levels of mycotoxins found are generally associated with increased rainfall during the growing season of the crop. A wet season like that of 2013/2014 in Australia, for example, saw high levels of many mycotoxins detected.

Each mycotoxin has a different level of what is considered safe, and is based on their toxicity, which in turn establishes minimum acceptable levels which diagnostic labs need to be able to detect. These levels are different for each mycotoxin, and sometimes differ depending on the sample being tested , for example grain or fruit etc. There are differing acceptable levels for commodities that are for human consumption, and those for animal consumption. In Australia there are no specific regulations relating to pigeons.

Most veterinarians on behalf of their clients, be they, individual fanciers, grain suppliers, or clubs or federations would suggest that testing labs run broad screens that cover all the major mycotoxins. In Australia the major mycotoxins are produced by the following genera of fungi; *Fusarium spp.* *Aspergillus spp.* *Penicillium spp.* and *Alternaria spp.* Amongst others *Aspergillus* species produce aflatoxins, *Fusarium* species produce trichthecenes and fumonisin toxins, while *Penicillium* species produce ochratoxins . Aflatoxins and Ochratoxin A are the most toxic of all the mycotoxins. Fortunately in Australia these are only occasionally detected, but of significance to fanciers ,when identified they are usually associated with peanuts (and grapes). The rest of the mycotoxins are usually associated with cereal grains which of course is the main food of pigeons. The ability to not only detect a toxin but evaluate its level is vital for interpretation. For example, fumonisins are found in over 50% of tested maize samples but usually are only at levels that would cause problems in 2% of these. Your veterinarian can help you interpret the significance of results.

At the Melbourne Bird Veterinary Clinic we advice fanciers who are concerned to have a sample of the grain blend that they intend using tested. If the test comes back all clear then a sufficient volume of that batch to last the entire season should be purchased. Once purchased this grain then needs to be stored in a cool ,low humidity area.

Grain testing should also be part of any thorough investigation into poor race performance or other health problems.